

Applicant: James A. Proctor, Jr.
Application No.: 09/772,176

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for adapting to changes affecting a wireless signal comprising:

detecting a movement of a communication device communicating the wireless signal or a movement of an external object in a signal path based on a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude of the wireless signal ~~as a whole~~, frequency of the wireless signal, or phase of the wireless signal ~~as a whole, the phase being determined relative to a reference signal separate from the wireless signal~~;

selecting a parameter adjustment, based on the detected movement, of at least one of: an antenna mode, a power level, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate; and performing the parameter adjustment.

2. (Previously Presented) The method as in claim 1, wherein the detecting is performed by a mobile station.

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3. and 4. (Canceled).

5. (Previously Presented) The method as in claim 1, wherein the detecting is based on a signal in an automatic gain control (AGC) loop.

6. (Previously Presented) The method as in claim 5, wherein the detecting is a function of a statistic of the signal in the AGC loop.

7. (Previously Presented) The method as in claim 6, wherein the statistic that is used is variance.

8. (Previously Presented) The method as in claim 1, wherein the detecting is based on a phase error signal produced by at least one of a delay lock loop, matched filter, or correlator.

9. (Previously Presented) The method as in claim 8, wherein the detecting is a function of a statistic of the phase error signal.

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10. (Previously Presented) The method as in claim 9, wherein the statistic that is used is variance.

11. (Previously Presented) The method as in claim 1, wherein the metric is based on a frequency error signal in a frequency control loop.

12. (Previously Presented) The method as in claim 11, wherein the detecting is a function of a statistic of the frequency error signal.

13. (Previously Presented) The method as in claim 12, wherein the statistic that is used is variance.

14. (Previously Presented) The method as in claim 1, wherein the detecting includes: comparing the metric to a threshold level.

15. (Canceled).

16. (Currently Amended) The method as in claim 1, wherein the selecting the parameter adjustment includes selecting the antenna mode, which comprises changing from directive to omni-directional.

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17. (Currently Amended) The method as in claim 1, wherein the selecting the parameter adjustment includes selecting the antenna mode, which comprises changing from omni-directional to directive.

18. (Canceled).

19. (Previously Presented) The method as in claim 1, wherein the selecting the parameter adjustment includes selecting to reduce at least one of the FEC coding rate, or the number of modulation symbols, to a minimum level while maintaining the signal path.

20. (Canceled).

21. (Currently Amended) An apparatus for adapting to changes affecting a wireless signal, comprising:

a processing unit configured to detect a movement of a communication device communicating the wireless signal or a movement of an external object in a signal path based on a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude of the wireless signal ~~as a whole~~, frequency of the

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wireless signal, or phase of the wireless signal ~~as a whole, the phase being determined relative to a reference signal separate from the wireless signal~~; and

a compensator configured to make a signaling parameter adjustment, responsive to the movement detected by the processing unit, of at least one of an antenna mode, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate.

22. (Previously Presented) The apparatus as in claim 21, configured as a mobile station.

23. and 24. (Canceled).

25. (Previously presented) The apparatus as in claim 21, wherein the processing unit is configured to detect motion based on a signal in an automatic gain control (AGC) loop.

26. (Previously Presented) The apparatus as in claim 25, wherein the processing unit is configured to detect motion as a function of a statistic of the signal in the AGC loop.

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27. (Previously Presented) The apparatus as in claim 26, wherein the processing unit is configured to use variance as the statistic.

28. (Previously Presented) The apparatus as in claim 21, wherein the processing unit is configured to detect motion based on a phase error signal produced by at least one of a delay lock loop, a matched filter, or a correlator.

29. (Previously Presented) The apparatus as in claim 28, wherein the processing unit is configured to detect motion as a function of a statistic of the phase error signal.

30. (Previously Presented) The apparatus as in claim 29, wherein the processing unit is configured to use variance as the statistic.

31. (Previously Presented) The apparatus as in claim 21, wherein the processing unit is configured to detect motion based on a frequency error signal in a frequency control loop.

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32. (Previously Presented) The apparatus as in claim 31, wherein the processing unit is configured to detect motion as a function of a statistic of the frequency error signal.

33. (Previously Presented) The apparatus as in claim 32, wherein the processing unit is configured to use variance as the statistic.

34. (Previously Presented) The apparatus as in claim 21, wherein the processing unit is configured to detect motion using a comparison threshold level.

35. (Previously Presented) The apparatus as in claim 21, further comprising:

an antenna having a changeable antenna mode, wherein the compensator is configured to change the antenna mode.

36. (Previously Presented) The apparatus as in claim 35, wherein the compensator is configured to change the antenna mode between directive and omnidirectional modes.

37. and 38. (Canceled).

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39. (Previously Presented) The apparatus as in claim 21, wherein the compensator is configured to reduce at least one of the FEC coding rate, or the number of modulation symbols, to a minimum level while maintaining the signal path.

40. and 41. (Canceled).

42. (Currently Amended) A non-transitory computer-readable storage medium containing a set of instructions for a general purpose computer, the set of instructions comprising:

a signal adaptation code segment configured to cause a processor to control a signaling path to adapt to changes affecting the signaling path,

a detection code segment configured to detect a movement of a communication device communicating the wireless signal or an external object in a signal path based on a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude of the wireless signal ~~as a whole~~, frequency of the wireless signal, or phase of the wireless signal ~~as a whole, the phase being determined relative to a reference signal separate from the wireless signal~~; and

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an adjusting code segment configured to make a signaling parameter adjustment, responsive the movement detected by the detecting code segment, of at lease one of an antenna mode, a forward error correction (FEC) coding rate, a number of modulation symbols, and a data transfer rate.